



# **JAIPUR, INDIA:** Supporting Water-Efficient Textile Production

Circular strategy:  
**REDUCE**



## Introduction

Textile production has long been recognized as a heavily polluting industry. It is highly water- and chemical-intensive, and though the Indian government has provisions in place to protect workers and the environment, poor compliance is an ongoing issue. Textile production in Jaipur, India, is no exception; enterprises there are known to discharge thousands of kiloliters of polluted water each day.

To comply with environmental regulations, a group of small- and medium-sized enterprises (SMEs) that produced textiles in Sanganer town, Jaipur, founded Jaipur Integrated Texcraft Park Private Limited (JITPPL) as a public-private partnership with the national government. A national grant partially funded the venture while state and local government helped subsidize land for the project.

JITPPL is equipped with water harvesting facilities that drastically reduce its freshwater consumption as well as advanced filtration equipment that removes contaminants from its wastewater.





## Context & Key Actors

The hundreds of textile SMEs located in the Jaipur district's Sanganer town are well-known for their finely dyed and hand block printed textile products. However, prevailing production practices caused significant environmental pollution in the area. Despite national pollution control regulations, it was estimated that the units discharged approximately 10,000 kiloliters of mostly untreated wastewater daily.

In recognition of the danger these practices posed to the community, textile workers, and the environment, a public interest court case was filed to compel the textile enterprises to treat their wastewater. However, the enterprises were initially unable to implement improved pollution control mechanisms due to their high cost, as well as a lack of state-provided public amenities (including wastewater services) in Sanganer. After continued non-compliance, a court ordered printing operations there to cease in 2003.





## Intervention

Following the court order, members of a local consortium of textile producers (the Consortium of Textile Exporters, COTEX) advanced a proposal for an environmentally friendly textile park, Texcraft Park, for which they acquired land and funding assistance with help from state and local government in 2008. Eventually, textile producers operating in the new park formed a group, Jaipur Integrated Texcraft Park Private Limited (JITPPL), to manage construction and strategic planning. The project was funded via public-private partnership, with about one-third of the costs being covered by a grant from the national government of India under the Scheme for Integrated Textile Parks (SITP). JITPPL members covered the remainder of the costs. The SWITCH-Asia SUSTEX project provided research/knowledge support and assisted with capacity development.

The park, which became operational in 2012, is equipped with multiple circular interventions centered around water reuse, conservation, and filtration, with the aim of reducing contamination of local water resources. The premises include facilities for rainwater harvesting and recycling, solar energy generation, and effluent treatment. The park's effluent treatment process, specifically designed to purify water used in textile production, involves filtration, pre-treatment, and reverse osmosis stages. In reverse osmosis, pressure is used to force water through a fine semi-permeable membrane, leaving the solute concentrated on one side and clean water on the other side.

The park currently consists of multiple units devoted to fabric dyeing, hand block printing, and screen printing that can produce up to 50,000 textile pieces per month.



## Success Factors

- **Pre-existing collaborative forums:** the fact that many of the textile producers who joined JITPPL already had experience working together as members of the COTEX consortium facilitated trust and ongoing collaboration.
- **Public-private partnership:** as the majority of JITPPL producers are small- or even micro-sized enterprises, grant funding provided by the government of India was a critical financial enabler.
- **Willingness to innovate:** despite production cost increases of 20-25 percent, local textile enterprises still enthusiastically bought into the JITPPL project.

## Impacts

- **Reduced water consumption:** Almost 90 percent of water used in the park is cycled back into the system, where it can be reused for textile production.
- **Less pollution:** the park's multi-step water treatment system can treat 500,000 liters of effluent per day, which prevents pollution from being released into the environment.
- **Better working conditions:** health and safety protocols, including ergonomic workstation design, lighting, and ventilation, protect workers in the park.





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## References

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## Images

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